Reg. No. :

Question Paper Code: 34042

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2017

Fourth Semester

Electronics and Communication Engineering

01UEC402 – ANALOG CIRCUITS

(Regulation 2013)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. What are the essential conditions for maintaining oscillations?

2. Draw the circuit of Armstrong oscillator and mention its application.

3. Compare clipper and clamper.

4. Draw the circuit diagram of diode clippers.

5. Give the ideal characteristics of op-amp.

6. Define slew rate.

7. Define lock range of a PLL.

8. Give the schematic of Op-Amp based sine wave to square wave converter.

9. Define time constant.

10. Define resolution of a converter.

PART - B (5 x 16 = 80 Marks)

11. (a) Draw a neat circuit diagram for transistor tuned collector oscillator and explain its working. (16)

Or

(b) Explain in detail the construction and working principle of RC phase shift oscillator and derive the expression for frequency of oscillation in it. (16)

12. (a) Explain the working of monostable multi vibrator using BJT with relevant waveforms. Derive the expression for varying its pulse width at the output. (16)

Or

(b) Give a detailed account on the principle and working of bistable multivibrators. (16)

13. (a) Explain the steps involved in the manufacturing process of an IC. (16)

Or

(b) Enumerate the ac characteristics of op-amp. (16)

14. (a) Draw and explain the operation of phase shifter circuit with necessary expressions. (16)

Or

(b) What is an instrumentation amplifier? With a neat diagram explain the working of an instrumentation amplifier whose gain can be set by a gain setting resistor. (16)

15. (a) Explain the successive approximation and dual slope A/D converters in detail. (16)

Or

(b) Give a detailed account of IC 723 general purpose linear regulators. (16)

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